

IN THE CLAIMS

1. (currently amended) A rigid solid support, comprising:

(A) an antibody that specifically binds to CD28 ~~at least one T cell affecting molecule selected from the group consisting of a T cell costimulatory molecule, an adhesion molecule, a T cell growth factor, a regulatory T cell inducer molecule, and an apoptosis-inducing molecule; and~~

(B) an MHC class I-immunoglobulin complex comprising at least one molecular complex that, when bound to an antigen, engages a unique clonotypic lymphocyte receptor, wherein the at least one molecular complex is selected from the group consisting of:

(1) two fusion proteins, wherein each fusion protein comprises:

~~an MHC class I molecular complex comprising at least two fusion proteins, wherein a first fusion protein comprises a first MHC class I α chain comprising a peptide binding groove; and~~

an ~~and a first~~ immunoglobulin heavy chain comprising a variable region;

(2) two MHC class I β_2 microglobulin polypeptides; and

(3) two immunoglobulin light chains

~~and wherein a second fusion protein comprises a second MHC class I α chain and a second immunoglobulin heavy chain, wherein the first and second immunoglobulin heavy chains associate to form the MHC class I molecular complex, wherein the MHC class I molecular complex~~

~~comprises a first MHC class I peptide binding cleft and a second MHC class I peptide binding cleft; and~~

~~(2) an MHC class II molecular complex comprising at least four fusion proteins, wherein:~~

~~(a) two first fusion proteins comprise (i) an immunoglobulin heavy chain comprising a variable region and (ii) an extracellular domain of an MHC class II β chain; and~~

~~(b) two second fusion proteins comprise (i) an immunoglobulin light chain and (ii) an extracellular domain of an MHC class II α chain;~~

~~wherein the two first and the two second fusion proteins associate to form the MHC class II molecular complex, wherein the extracellular domain of the MHC class II β chain of each first fusion protein and the extracellular domain of the MHC class II α chain of each second fusion protein form an MHC class II peptide binding cleft,~~

wherein the rigid solid support is a bead.

2-11. (canceled)

12. (currently amended) The rigid solid support of claim 1 wherein the MHC class I-immunoglobulin ~~at least one molecular~~ complex comprises an antigenic peptide.

13. (previously presented) The rigid solid support of claim 12 wherein the antigenic peptide is selected from the group consisting of a peptide of a tumor-associated antigen, a peptide of an autoantigen, a peptide of an alloantigen, and a peptide of an infectious agent antigen.

14. (currently amended) The rigid solid support of claim 1 comprising ~~at least two~~ MHC class I-immunoglobulin molecular complexes.

15. (currently amended) The rigid solid support of claim 14 wherein an identical antigenic peptide is bound to each peptide binding groove ~~of the at least two~~ MHC class I-immunoglobulin molecular complexes.

16. (withdrawn – currently amended) The rigid solid support of claim 14 wherein different antigenic peptides are bound to each peptide binding groove ~~of the at least two~~ MHC class I-immunoglobulin molecular complexes.

17-47. (canceled)

48. (currently amended) A preparation comprising a plurality of the rigid solid supports of claim 1 ~~artificial particles, wherein artificial particles of the plurality comprise:~~

~~(A) at least one T cell lymphocyte affecting molecule selected from the group consisting of a T cell costimulatory molecule, an adhesion molecule, a T cell growth factor, a regulatory T cell inducer molecule, and an apoptosis inducing molecule; and~~

~~(B) at least one molecular complex that, when bound to an antigen, engages a unique clonotypic lymphocyte receptor, wherein the at least one molecular complex is selected from the group consisting of:~~

~~(1) an MHC class I molecular complex comprising at least two fusion proteins, wherein a first fusion protein comprises a first MHC class I α chain and a first immunoglobulin heavy chain comprising a variable region and wherein a second fusion protein comprises a second MHC class I α chain and a second immunoglobulin heavy chain, wherein the first and second immunoglobulin heavy chains associate to form the MHC class I molecular complex, wherein the~~

~~MHC class I molecular complex comprises a first MHC class I peptide binding cleft and a second MHC class I peptide binding cleft; and~~

~~(2) an MHC class II molecular complex comprising at least four fusion proteins, wherein:~~

~~(a) two first fusion proteins comprise (i) an immunoglobulin heavy chain comprising a variable region and (ii) an extracellular domain of an MHC class II β chain; and~~

~~(b) two second fusion proteins comprise (i) an immunoglobulin light chain and (ii) an extracellular domain of an MHC class II α chain;~~

~~wherein the two first and the two second fusion proteins associate to form the MHC class II molecular complex, wherein the extracellular domain of the MHC class II β chain of each first fusion protein and the extracellular domain of the MHC class II α chain of each second fusion protein form an MHC class II peptide binding cleft.~~

49. (original) The preparation of claim 48 further comprising a pharmaceutically acceptable carrier.

50-70. (canceled)

71. (withdrawn – currently amended) A method of inducing the formation of antigen-specific T cells, comprising the step of:

contacting an isolated preparation comprising a plurality of precursor T cells with the at least one first rigid solid support of claim 1, wherein antigenic peptides ~~antigens~~ are bound to the peptide binding grooves ~~antigenic binding clefts~~, thereby inducing members of the plurality of precursor T cells to form a first cell population comprising antigen-

specific T cells that recognize the antigenic peptides ~~antigen~~, wherein the number or percentage of antigen-specific T cells in the first cell population is greater than the number or percentage of antigen-specific T cells that are formed if precursor T cells are incubated with a rigid solid support that comprises an antibody that specifically binds to CD3 but does not comprise the MHC class I-immunoglobulin ~~an antigen-presenting complex~~.

72. (withdrawn) The method of claim 71 wherein the antigen-specific T cells are cytotoxic T cells.

73. (withdrawn) The method of claim 71 wherein the antigen-specific T cells are helper T cells.

74. (withdrawn) The method of claim 71 wherein the antigen-specific T cells are regulatory T cells.

75. (withdrawn) The method of claim 71 further comprising the step of separating the antigen-specific T cells from the first cell population.

76. (withdrawn – currently amended) The method of claim 71 further comprising the step of incubating the first cell population with a ~~at least one~~ second rigid solid support of claim 1, wherein antigenic peptides ~~antigens~~ are bound to the peptide binding grooves ~~antigen-binding clefts~~, wherein the step of incubating is carried out for a period of time sufficient to form a second cell population comprising an increased number or percentage of antigen-specific T cells relative to the number or percentage of antigen-specific T cells in the first cell population.

77. (withdrawn – currently amended) The method of claim 71 wherein the antigenic peptides ~~antigens~~ are identical.

78. (withdrawn – currently amended) The method of claim 71 wherein the antigenic peptides ~~antigens~~ are different.

79. (withdrawn – currently amended) The method of claim 71 wherein the isolated preparation is contacted with ~~at least two first~~ rigid solid supports, wherein different antigenic peptides ~~antigens~~ are bound to the peptide binding grooves ~~antigen-binding clefts~~ of the MHC class I-immunoglobulin molecular ~~molecular~~ complexes of each of the ~~first~~ rigid solid supports.

80. (withdrawn – currently amended) A method of increasing the number or percentage of antigen-specific T cells in a population of cells, comprising the step of:

incubating a first cell population comprising antigen-specific T cells with ~~the at least one first~~ rigid solid support of claim 1, wherein antigenic peptides ~~antigens~~ are bound to the peptide binding grooves ~~antigen-binding clefts~~, wherein the step of incubating is carried out for a period of time sufficient to form a second cell population comprising an increased number or percentage of antigen-specific T cells relative to the number or percentage of antigen-specific T cells in the first cell population.

81. (withdrawn) The method of claim 80 wherein the first cell population is a homogeneous cell population.

82. (withdrawn) The method of claim 71 further comprising the step of administering the antigen-specific T cells to a patient.

83. (withdrawn) The method of claim 82 wherein the patient has cancer, an autoimmune disease, an infectious disease, or is immunosuppressed.

84. (withdrawn) The method of claim 82 wherein the precursor T cells are obtained from the patient.

85. (withdrawn) The method of claim 82 wherein the precursor T cells are obtained from a donor who is not the patient.

86. (withdrawn) The method of claim 82 wherein the antigen-specific T cells are administered by a route of administration selected from the group consisting of intravenous administration, intra-arterial administration, subcutaneous administration, intradermal administration, intralymphatic administration, and intra-tumoral administration.

87. (withdrawn) The method of claim 80 further comprising the step of administering the antigen-specific T cells of the second population to the patient.

88-145. (canceled)